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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,432	03/05/2001	Christophe Chevance	PF980059	1692

7590 07/28/2004

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EXAMINER
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PARSONS, CHARLES E

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/786,432

Applicant(s)

CHEVANCE ET AL.

Examiner

Charles E Parsons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 10 and 11 is/are rejected.
- 7) ☒ Claim(s) 6, 8, 9, 12 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claim 3 recites the limitation "in each of the four directions". There is insufficient antecedent basis for this limitation in the claim. Neither the specification nor the previous claims define the four directions.
3. Claim 4 recites the limitation "The displaced frame difference". There is insufficient antecedent basis for this limitation in the claim.
4. Claim 5 recites the limitation "the zero vector". There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:  
  
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
6. Claims 1-4, 7, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerdranvrat in view of Lee.  
  
Claim 1. Method of movement estimation for a sequence of images including segmentation of a current video image into image blocks, movement estimation per image block in order to obtain a movement vector field for said current image, (See Kerdranvrat column 2 lines 36-39)  
  
a stage of reassignment of a vector to a block by selecting one movement vector from among N predominant vectors, (See Kerdranvrat column 2 lines 44-48)

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wherein the predominant vectors are the ones of the group of vectors belonging to the movement vector field of said current image and at least to the movement vector field of a preceding image, (See Kerdranvrat column 2 lines 9-19)

the vectors being scaled according to the temporal distance to which they correspond.

(See Kerdranvrat column 2 lines 53-60 wherein he shows he scales the number of vectors depending on the necessary or available flow rate. While he does not mention scaling the vectors according to the temporal distance, temporal scaling was well known at the time the invention was made and widely used to reduce the processing load on an image encoding scheme, see Lee abstract. Therefore it would have been obvious to one of ordinary skill in the art to apply a temporal scaling scheme to the dominant vectors, motivated by Lees teaching that the reduced processing load would be desirable.

Claim 2: Method according to Claim 1, wherein, for a predominant vector, second-order regional maxima are detected so as not to be taken into account during the selection of the other predominant vectors. (See Kerdranvrat column 6 lines 16-29, note the maxima must be detected before it can be eliminated.)

Claim 3: Method according to Claim 1, wherein the predominant vectors are selected in each of, the four directions. (While this claim was rejected to under USC 112 above the directions are interpreted as meaning any four directions. Motion vectors occur in any number of directions therefore the dominant vector could as well.) Official notice served

Claim 4: Method according to Claim 1, wherein the selection of the reassigned vector is based on the value of the displaced frame difference (DFD). (See Kerdranvrat column 7 line 55 through column 8 line 10)

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Claim 7: Method according to Claim 1, wherein the selection of the reassigned vector is based on the calculation of the activity in the inter-image difference block. (See Kerdranvrat column 7 lines 44-54.)

Claim 10: Method according to Claim 4, wherein the components of the vectors used during the DFD calculations are the spatially filtered components. (Spatial filtering was well known at the time the invention was made and an obvious choice for filtering vectors to one of ordinary skill in the art.) Official notice served.

Claim 11. Method according to Claim 7, wherein the components of the vectors used during the spatial-gradient calculations are the spatially filtered components. (Spatial filtering was well known at the time the invention was made and an obvious choice for filtering vectors to one of ordinary skill in the art.) Official notice served.

***Allowable Subject Matter***

7. Claims 6, 8, 9, 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims as well as correcting any antecedent basis problems with any of the preceding claims from which they depend. Note that if the antecedent basis of the claim 5 rejection were to be corrected by amendment, it too would be objected to as being allowable. The following is a statement of reasons for the indication of allowable subject matter: The combination of elements claimed in the objected too claims was not found in a prior art search nor considered obvious by the Examiner. The closes prior art uses a different assignment method with regards to the assignment of the predominant vectors.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E Parsons whose telephone number is 703-305-3862. The examiner can normally be reached on M-TH 7AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 703-305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CEP

  
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